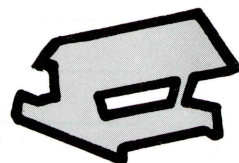
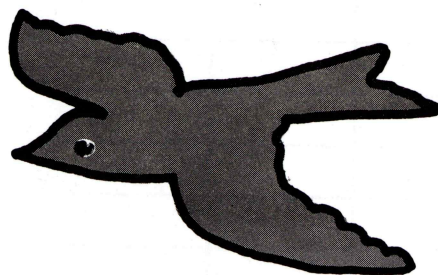
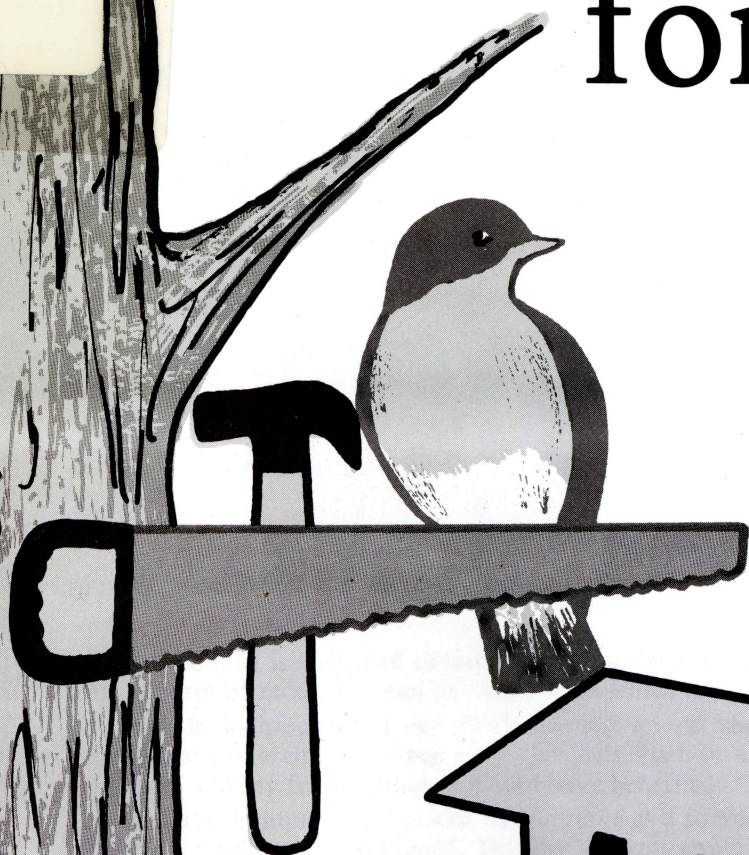


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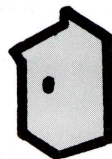
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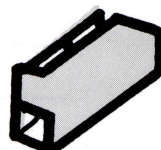
Woodworking for Wildlife



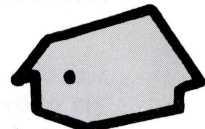
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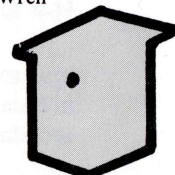
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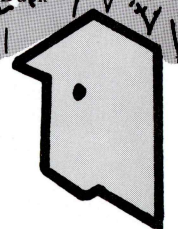
Rabbit Trap



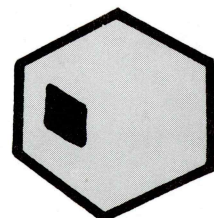
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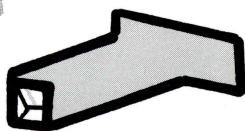
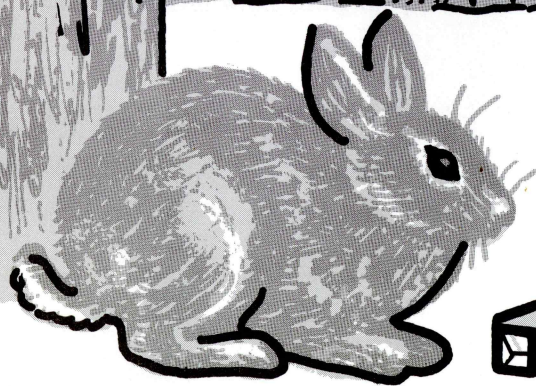
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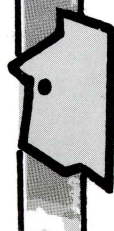
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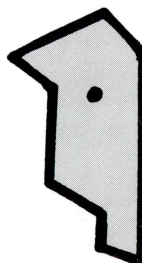
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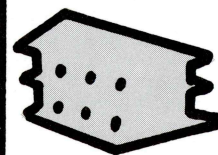
Rabbit Trap



Sparrow Hawk



Squirrel



Purple Martin



Missouri Department of Conservation

SMSU-WP Garnett Library



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Introduction

This booklet is dedicated to those individuals who are blessed with two loves—wildlife and woodworking. Both entail a form of recreation and devotion from which the rewards are many.

Back in high school, I can recall wasting several shop hours in Vocational Agriculture, either waiting for materials or just waiting between major projects. I am sure that with a small project to better occupy my time, both my grades and my fellow students would have benefited.

With this in mind, this booklet should serve as a source of short-term projects for those students who may find themselves needing to be occupied. This, by the way, could also include a larger group of us who simply need to pry ourselves away from television for awhile.

These plans are designed both for youngsters and for those who have had many years of woodworking experience. In addition to the vocational agriculture and woodworking classes taught in schools, I am sure that 4-H members, Boy Scouts, Girl Scouts and even the professional cabinet-maker can find these plans useful.

The plans do not call for expensive materials, and very often scrap lumber can be used. Each plan includes suggestions on how to properly install the finished product. The reward comes not only in seeing the project completed in the shop but also in watching the many songbirds at the feeder or seeing young squirrels as they poke their heads out of one's very own squirrel den box.

Remember, the project is not complete until the finished item is properly installed in the out-of-doors. Here again, a breath of fresh air is good for everyone, and the rewards will be magnified when the wild creatures use them.

Be careful while using the power tools. Best of luck while you are woodworking for wildlife.

David E. Pitts
Field Service Agent
Missouri Department of Conservation

How to Build a Bird Feeder

by James D. Wilson

Construction: The Plexiglas sides show the level of the feed. However, Masonite can be used instead. Either material can be attached with screws or nails directly to the edges of the ends, or you can saw a kerf 1/4 inch from the front edge of the ends, and slide Plexiglas, Masonite or glass panels into this groove. A removable panel of this type permits easier cleaning. The 6 1/2-inch-wide Plexiglas should be installed so that its top edge meets the roof, thus providing the critical 1-inch clearance at the bottom for proper seed flow.

Installation: The feeder can be mounted on a post as diagrammed or hung, using wire from a coat hanger. Place it in a site where you can enjoy watching your customers from the comfort of your home. Preferably, the feeder should be near bushes or trees to provide the birds with avenues of approach and retreat. You can attempt to discourage competing squirrels by installing the feeder on a 6-foot-high post or pipe, at least 20 feet away from points from which they can jump. Then fasten an inverted cone of sheet metal at least 18 inches in diameter around the post just beneath the feeder.

Maintenance: Flour will accumulate on the floor of the feeder and, when combined with moisture, forms a hard paste. This must be scraped off so that the seed feeds through properly and the drain holes remain functional.

Comment: If you wish to restrict your feeding to only the winter season, you should begin in late fall or with the first snowfall. Once started, the birds will become dependent on you, and you should continue feeding through the winter until gradually tapering off and discontinuing by March or April. Sunflower seeds (especially the small oil-type) flow well in this feeder, and they are attractive to an array of bird species—cardinals, chickadees, titmice, bluejays and finches. Wild bird seed mix, finely cracked corn or chicken scratch can also be used.

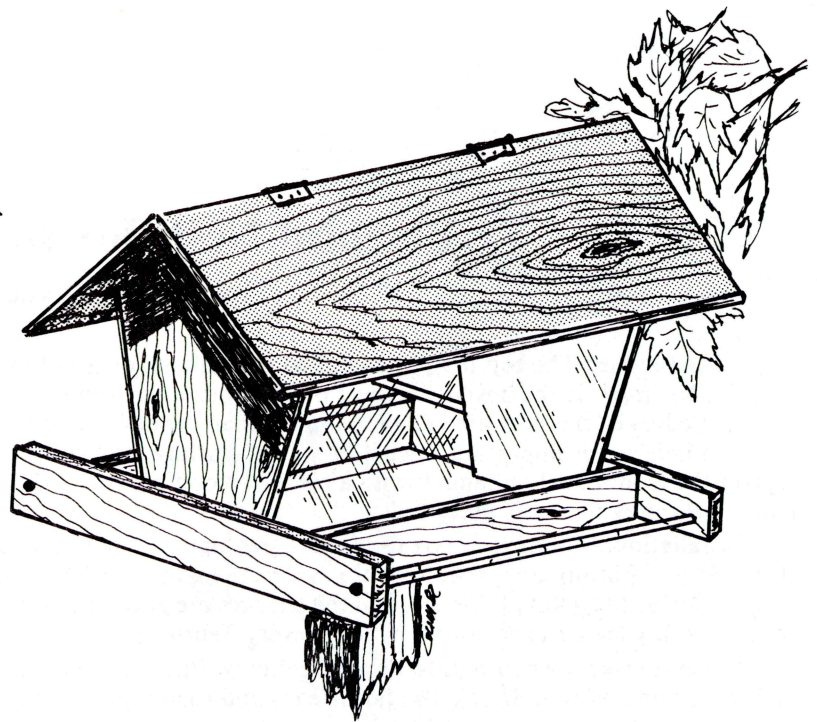
Other species, such as juncos and sparrows, will benefit if you simply scatter some seed on the ground. Others select entirely different foods. Suet (fat trimmings) obtained from a meat market can be hung in a mesh fruit or onion bag for woodpeckers and nuthatches. Fried meat grease smeared on the bark of a tree or log may attract chickadees and creepers. Mockingbirds and bluebirds will sometimes accept cut-up fruit or berries.

HOW TO BUILD A BIRD FEEDER

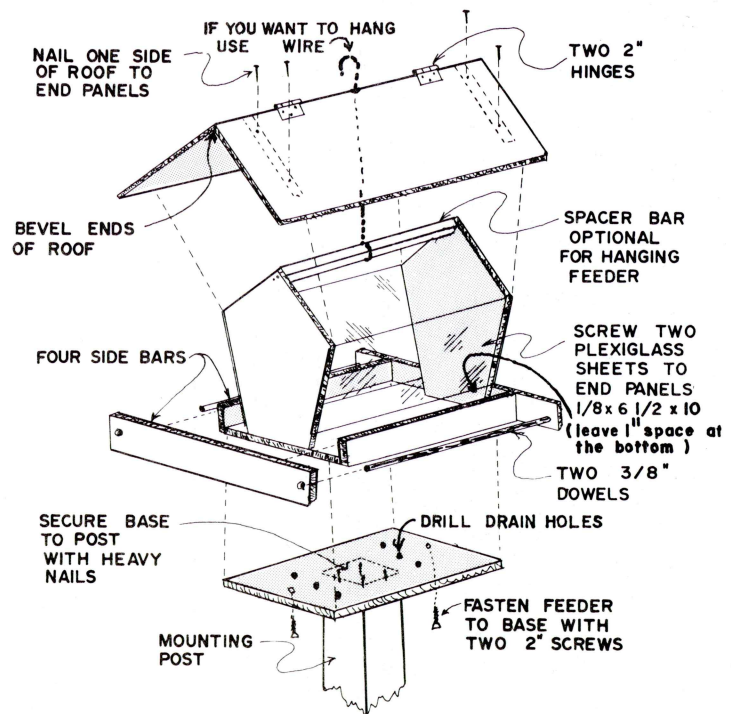
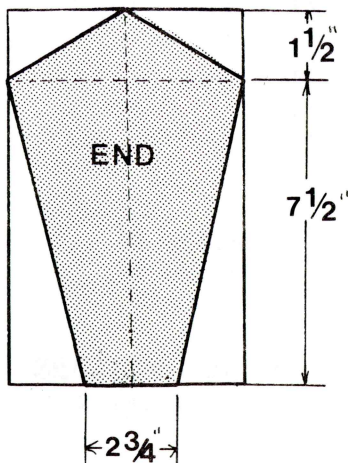
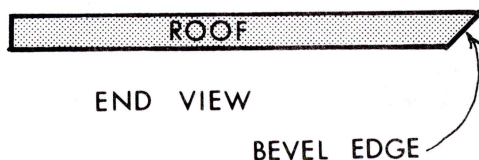
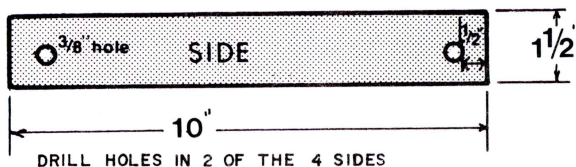
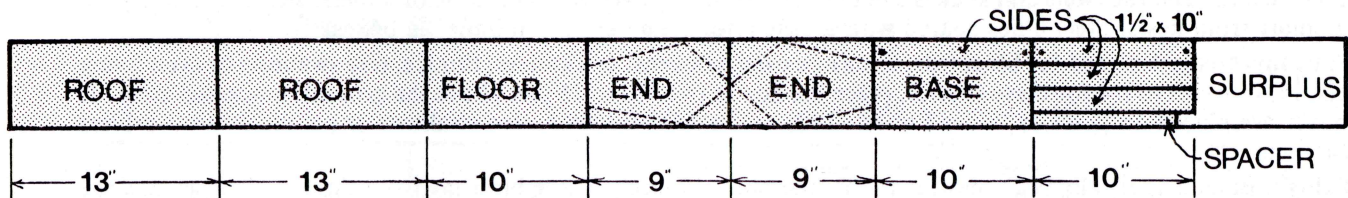
Drawings
by Steve Gum



Missouri Department of Conservation



ALL PARTS FROM A SINGLE 1" x 6" BOARD 7' LONG



Bluebird Nest Box Information

by John E. Wylie

Construction: The top may be mounted on a hinge, or a 1/2-inch dowel may be substituted for the hold-down strip for the roof. If the beveled corners on the bottom are omitted, drill four 1/4-inch holes for drainage. Note that the front edges of the sides are 1/8-inch shorter than the nest box front. The resulting crack provides ventilation. The 1 1/2-inch hole size is important since it keeps out starlings and cowbirds. If woodpeckers or squirrels enlarge the hole, replace the front panel or patch it with a piece of wood with a 1 1/2-inch hole. Painting is not necessary, but if you do paint, light grey or tan is preferred.

Installation: Mount your box four to six feet high on a post and face the entrance towards the nearest large tree or shrub. If you put up more than one box, space them at least 100 yards apart; bluebirds are territorial. Clean out the box as soon as the young have left, and the chances are good that the adults will use the box again for a second or even third brood. Clean and repair your boxes every February.

Bluebirds like open or lightly wooded country. Pastures with wooded draws or scattered trees are ideal. New subdivisions, cemeteries, golf courses, farmsteads and road rights-of-way are all good areas on which to erect nest boxes.

Comment: Sparrows can be a problem. Tear out their nests and temporarily plug the hole until they move elsewhere. Wasps can also be troublesome and may even drive bluebirds away. Spray wasp nests and remove them. Predators such as cats, raccoons and snakes can destroy nests. An inverted metal cone or a metal sleeve can help keep these animals from nests. Steel pipes coated with grease also can be used to mount the boxes.

While this box is designed for bluebirds, it may be used by wrens, chickadees, titmice, tree swallows or even flying squirrels. If you want to try for these species, place the box in trees 10 to 15 feet above the ground in wooded areas. If these boxes are placed on poles or in dead trees which are in or over water, tree swallows or prothonotary warblers may use them.

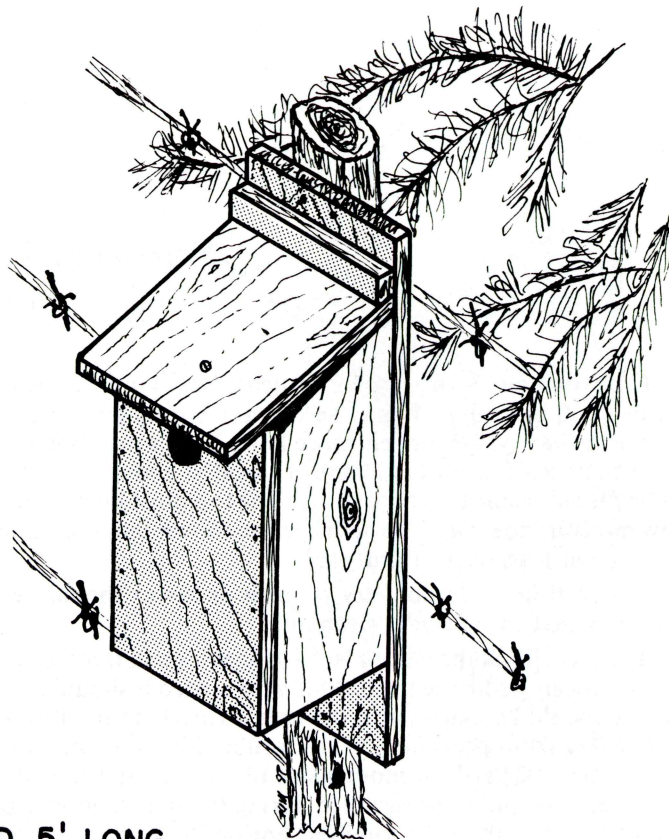
Biology: Bluebirds usually begin nesting in the first half of March. These birds lay from three to six eggs, and the incubation period is about 14 days. Young birds fly about 16 days after hatching. Two and three broods per year are common. Bluebirds are year-round residents of Missouri. They are the official state bird.

HOW TO BUILD A BLUEBIRD HOUSE

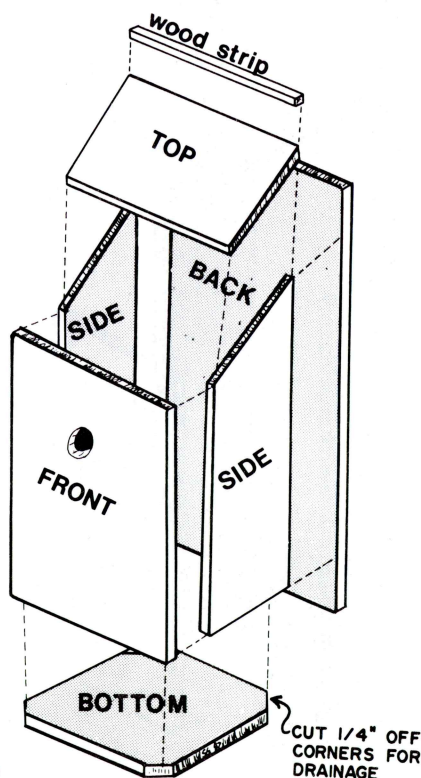
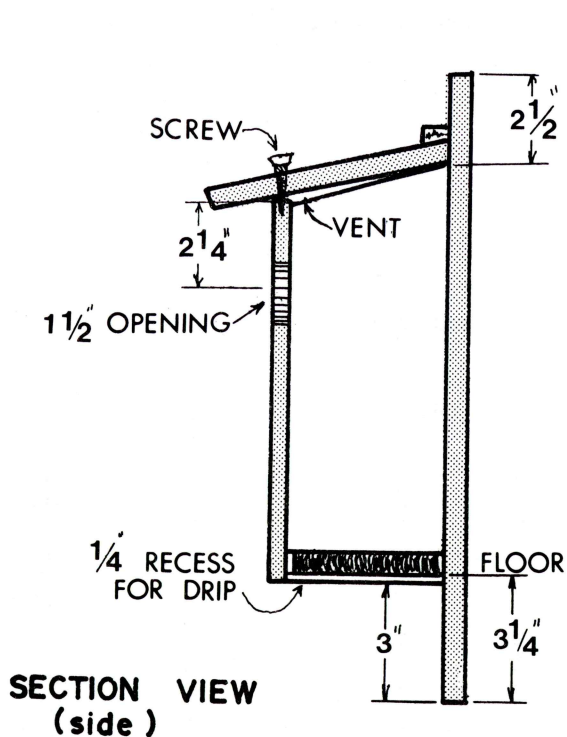
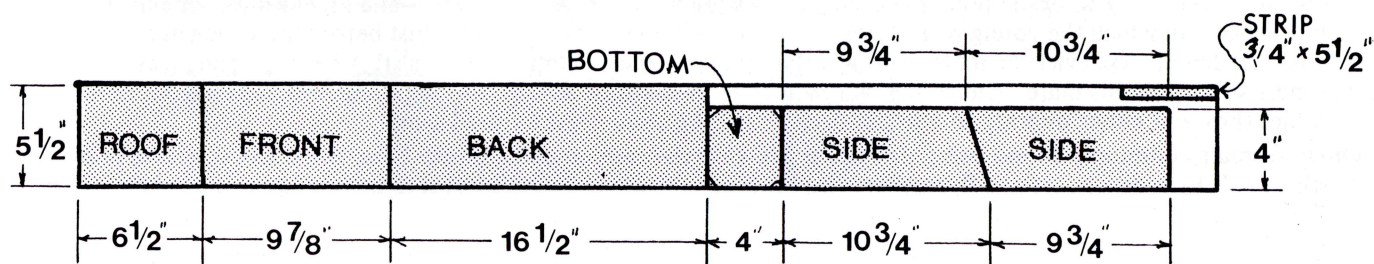


Drawings
by Steve Gum

Missouri Department of Conservation



ALL PARTS FROM A SINGLE 1 x 6 BOARD 5' LONG



5 Gum 82

Squirrel Den Box

by David E. Pitts

Construction: Scrap lumber of nearly any kind can be used to build a squirrel den box. Exterior-grade plywood may be used, but squirrels may destroy the box by gnawing the plywood. The main items to consider during construction are the cavity size and entrance hole. The cavity should be a minimum of 6 x 6 x 20 inches, and the entrance hole must be at least 3 inches in diameter, located about 2 inches from the top. The hole is located next to the side which will be placed against the tree trunk. The top must be weatherproof, and the bottom should have a small drain hole to allow moisture to escape. Experience has shown that the bottom will deteriorate within about five years unless the box is cleaned at least every third year.

Installation: Excelsior, dry sawdust or leaves should be put in the bottom to encourage use. The bottom or top may be hinged for periodic cleaning.

The box should be placed 10 to 30 feet high in tree tops. Use aluminum nails to secure it. Wire is not recommended, since it can girdle the tree, but if wire is used it should also be aluminum or copper to prevent damage to saws. The den box should be placed with the hole near a limb to allow easy entry. It also is best to face the entrance toward the south, away from prevailing winter winds. Boxes placed at or near the edge of large forests are more attractive than those placed 100 yards or more inside the stand, especially to fox squirrels. Boxes are used most heavily in the winter; therefore, they should be installed during the fall. A good cypress or cedar den box will last ten years or more and furnish a home for about 20 families, housing nearly 75 squirrels in a decade of full use.

Comment: Studies of leaf nests show that each pair of squirrels requires three dens—one for the male, one for the female and another in which the young will be born. The pair will live in one den until just before the young are born. At this time, the female will evict the male, who will then require an additional den or nest. After the young leave the nest, the male will rejoin his mate. The young will require more dens, of course, as the population increases. If none are available, they will either migrate to another area or will be eliminated by predation.

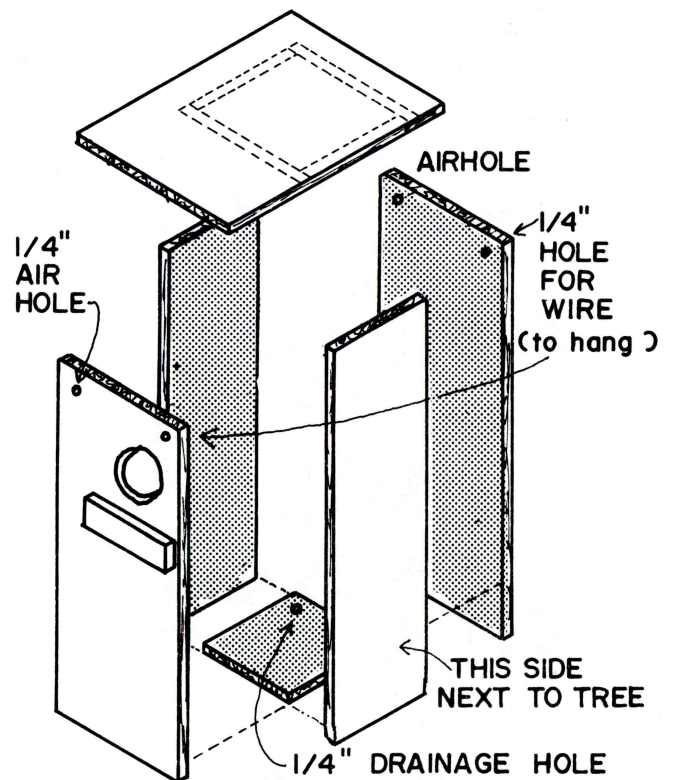
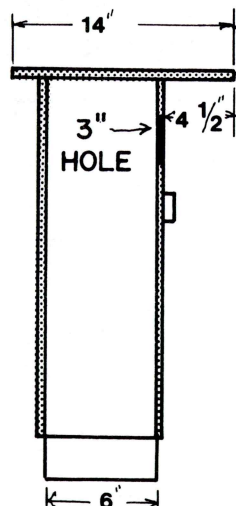
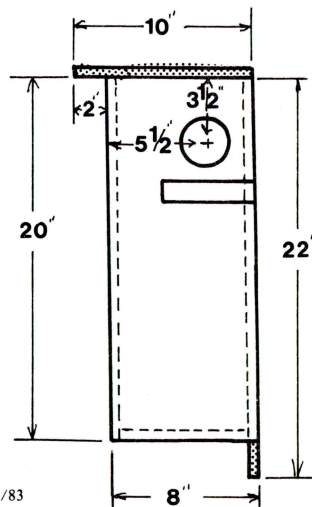
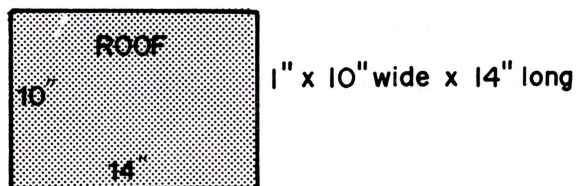
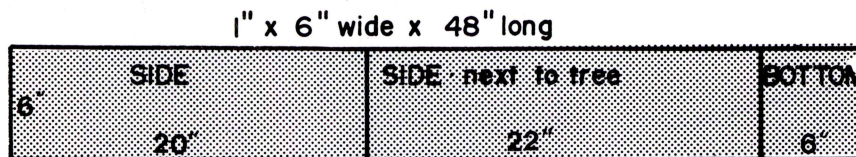
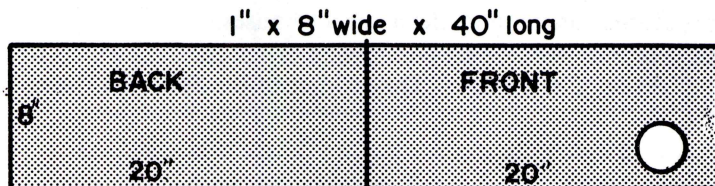
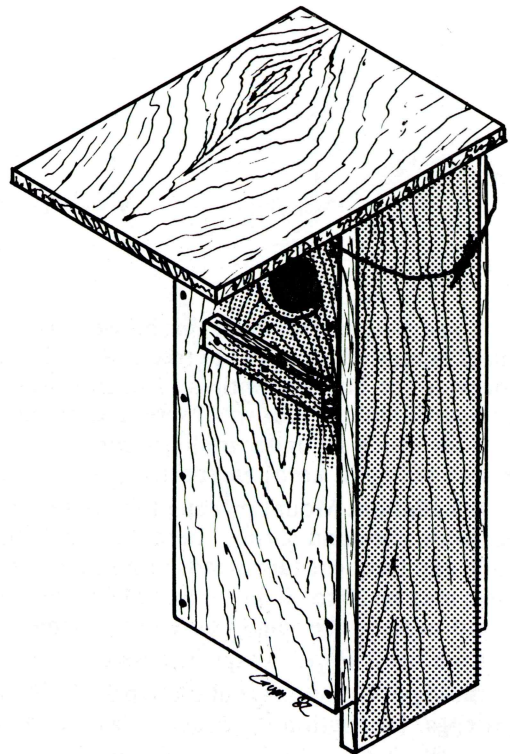
Other animals commonly found using den boxes are kestrels, screech owls, honey bees, some woodpeckers and even blacksnakes. In addition, crested flycatchers and other songbirds have been known to use the squirrel den box for nesting.

HOW TO BUILD A SQUIRREL DEN



Drawings
by Steve Gum

Missouri Department of Conservation



Wren House Information

by John E. Wylie

Construction: Note that this house may be top-mounted, back-mounted or hung from a limb or porch. If it is to be back-mounted on a post or tree, the back should be 8 inches long—or you can nail a longer board to the back later to provide for back-mounting. As a substitute for eye screws, you can drill holes through the opposite edges of the roof boards and tie your wire there. Fasten the bottom in place with screws so that it can be removed to clean the box. The sides which fit under the roof can be beveled, but this is not necessary. A square cut works just as well. The 1 1/8-inch hole will keep out sparrows and larger birds.

Installation: Mount or hang the house six to ten feet high in or near a tree or shrub. House wrens seem to prefer areas with trees and shrubs. Fencerows and brushy draws are ideal. Bewick wrens seem to prefer more open countryside and frequent farmsteads more than urban lots. It pays to put up two or three wren houses in a back yard. The houses may be 20 to 50 feet apart. Males sometimes attract two females to use extra houses. They seldom build second or third nests in the same house in the same year; they move to one of the vacant houses instead.

Comment: Paper wasps or ants can sometimes be problems. Inspect and clean vacant houses.

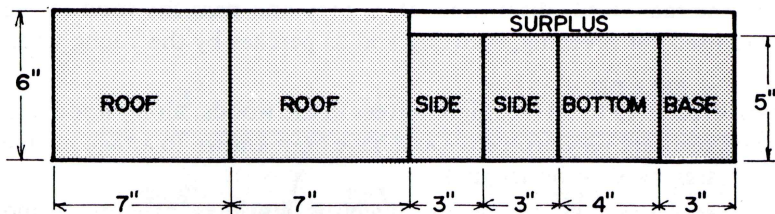
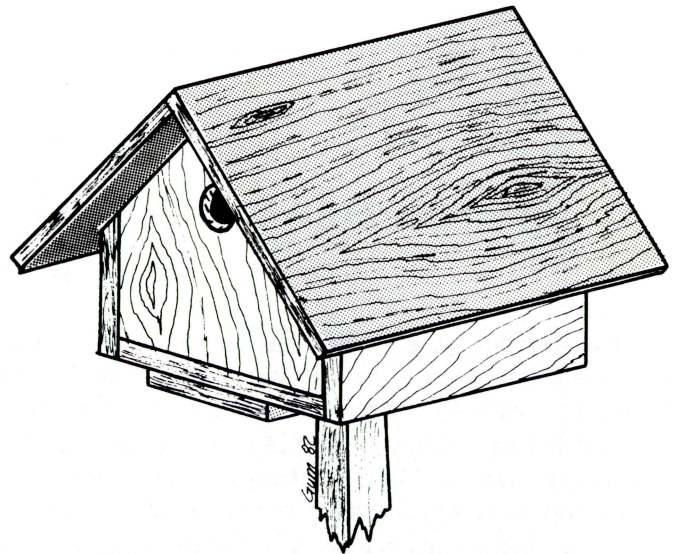
Biology: Wrens arrive about April 10–20. Two and three broods per year are common. Normal clutch size is six to eight eggs. Incubation is about 15 days, and age to first flight another 15 days. They winter in the Southern states.

HOW TO BUILD A WREN HOUSE



Drawings
by Steve Gum

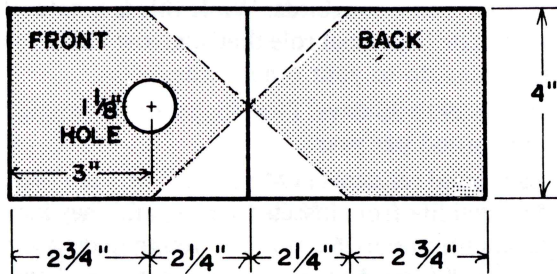
Missouri Department of Conservation



LUMBER NEEDED

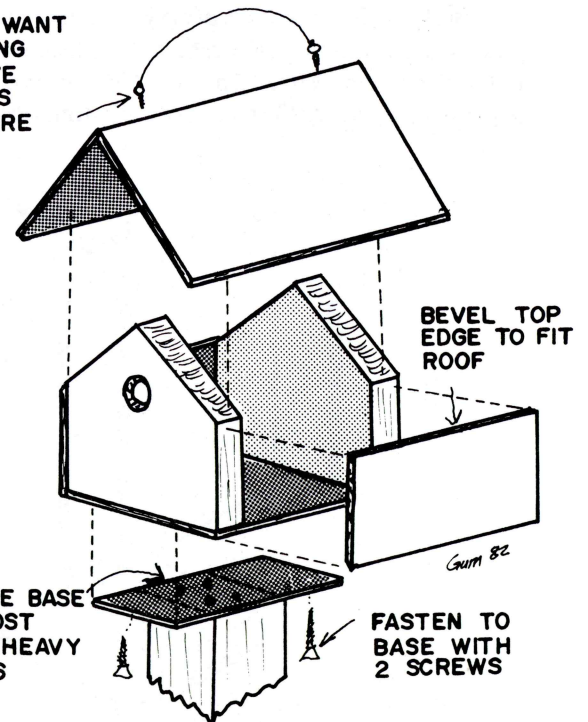
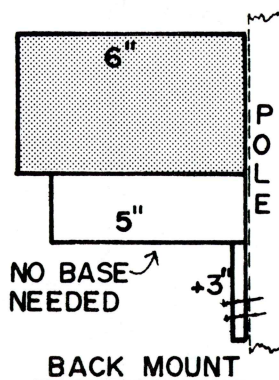
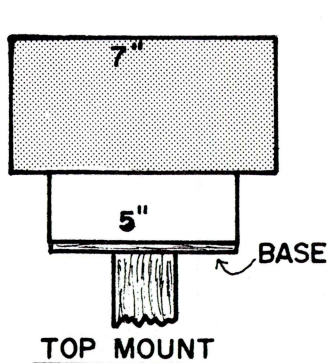
1/4" EXTERIOR PLYWOOD
6" WIDE x 27" LONG
(24" LONG IF BACK MOUNTED)

3/4" BOARD
4" WIDE x 10" LONG
(13" LONG IF BACK MOUNTED)



IF YOU WANT
TO HANG
USE EYE
SCREWS
AND WIRE

IF BACK MOUNTED TO POLE, ADD 3" TO BOTTOM
OF BACK AND SHORTEN LENGTH OF ROOF 1"



TOP MOUNT ASSEMBLY

Sparrow Hawk or Screech Owl Nest Box Information

By Brian Toland

Construction: While the dimensions shown are considered optimum, they can vary from 8 x 8 inches to 10 x 10 inches inside dimensions. The hole can be from 9 to 12 inches above the floor. You can put an inch or two of sawdust, woodchips, dried grass clippings or fine chat in the bottom of the box. Sparrow hawks don't build a nest, as such.

Installation: Place your box 15 to 30 feet high on the sides of barns or silos, on metal or wooden poles, in dead trees or, as a last resort, in isolated live trees. Live trees are least desirable because raccoon and snake predation on nests seems to be worse there. Use only aluminum nails in live trees.

Locate the box in open or partially open land or at the edge of wooded draws or fencerows which are adjacent to pastures, hay meadows and roadsides. Try to locate the box within 15 to 30 yards of a tree with dead limbs, a snag or a power pole. These serve as a plucking perch where the male birds dismember their prey and pass the food to the female, who feeds the young. These perches also are used for preening, courting and as perches by the young when they learn to fly.

If you want to use this nest box for screech owls, erect it 15 to 30 feet high in trees in the woods, along woodland edges or yards which have large trees. (Nesting screech owls are very protective and have been known to attack people and pets near their nests. These attacks are more frightening than injurious.)

Comment: This box may occasionally be used by squirrels, flying squirrels, bluebirds, starlings, other birds and even honey bees. All of these are a part of our wildlife scene.

Biology: Sparrow hawks (also called kestrels) are our smallest and most colorful hawks. They feed on mice, voles, insects, small birds and, rarely, on small snakes. However, they will kill some songbirds. While this is a natural and not necessarily disastrous event, you should know that it can happen. The beneficial role that sparrow hawks play in controlling rodents and nuisance birds far outweighs any harm they may do to your other birds.

Sparrow hawks usually lay four or five eggs and incubate them for 29 to 30 days. First flight for the young takes place 30 to 31 days after hatching. Sparrow hawks usually have one brood per year.

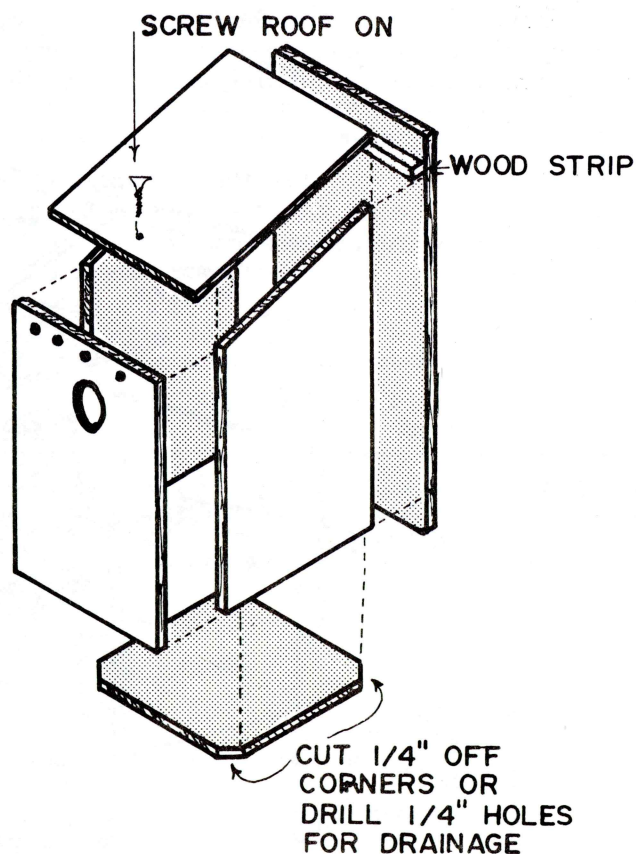
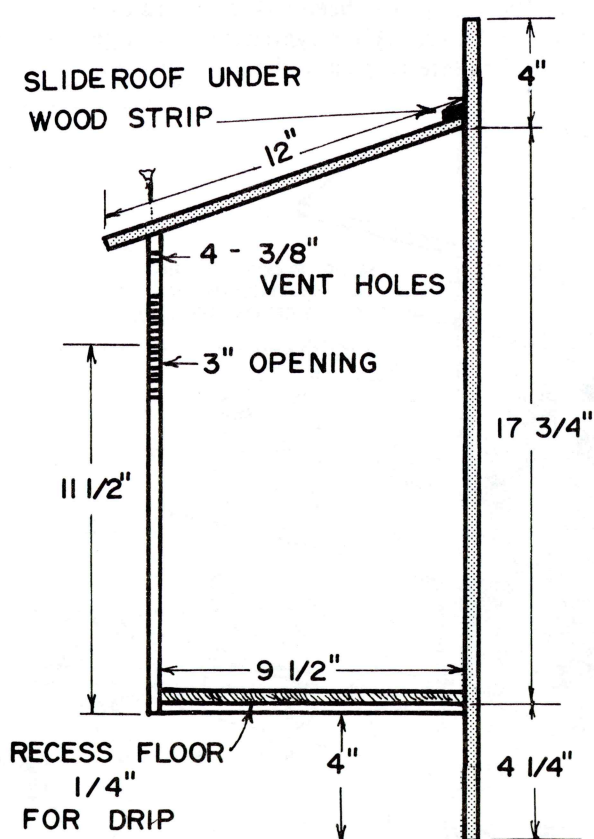
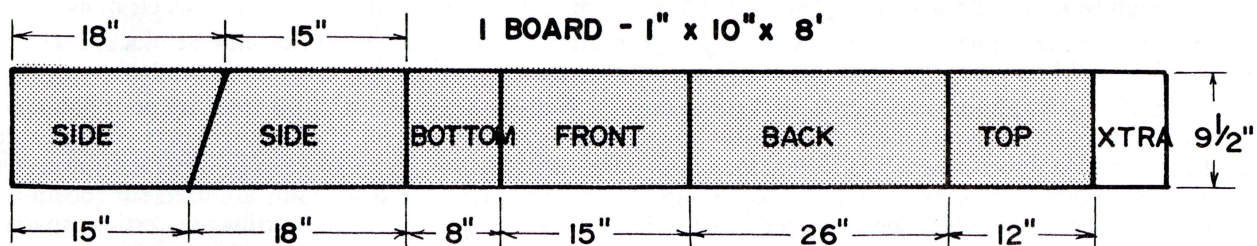
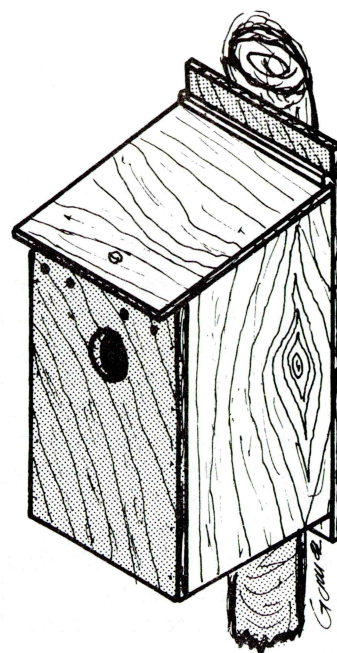
Biology: Screech owls are our smallest common owl and are year-round residents in Missouri. There are two color phases, gray and brown. Screech owls feed on almost any form of animal life from insects to mice, and they may also kill and eat small birds. They lay four or five eggs which they incubate for about 26 days. The young make their first flight at the age of 28 to 30 days. Nesting occurs from mid-March to mid-May, and they usually have one brood per year.

HOW TO BUILD A SPARROW HAWK OR SCREECH OWL HOUSE



Drawings
by Steve Gum

Missouri Department of Conservation



Martin House Information

by John E. Wylie

Construction: Note that the plan calls for nailing a 3/4-inch strip onto the boards which are the ends of the house. This makes the 11 1/2-inch lumber the full 12 1/4 inches necessary to make the rooms 6 x 6 inches. Any less space per room will discourage martins and encourage sparrows. Watch where you place your nails, because you will want to saw the dados (grooves) and roof pitch *after* the strips are added. Because of its nail-holding ability, solid lumber rather than plywood works best for the ends.

Drive 1-inch brads on either side of the room dividers to hold them in place. Leave the brads extended 1/4 inch above and below the ceiling/floor panel. If you don't have a table saw to make the dado cuts, you can nail two 1/2- to 3/4-inch strips of 1/4-inch plywood to the inside ends to form the grooves.

In this plan, a 1-inch space is allowed in the attic for insulation. A 1-inch styrofoam panel provides optimum insulation, but a few sheets of newspaper sandwiched between sheets of corrugated cardboard works well, too. The vent holes in the ends can be 3/8-5/8 inch in diameter. Note that the front pieces are cut 1/4 inch short in height. This, too, allows for attic ventilation and makes it possible to remove these fronts to clean the boxes. Use a 3/8-inch dowel for the roof perch. You may shingle the roof, but this is not necessary.

Paint the house white. *Do not* stain or paint the house dark colors. Holes should be at least 2 inches in diameter; 2 1/4 to 2 1/2 inches is recommended. Rectangular holes 2 x 3 inches (high) are also suitable.

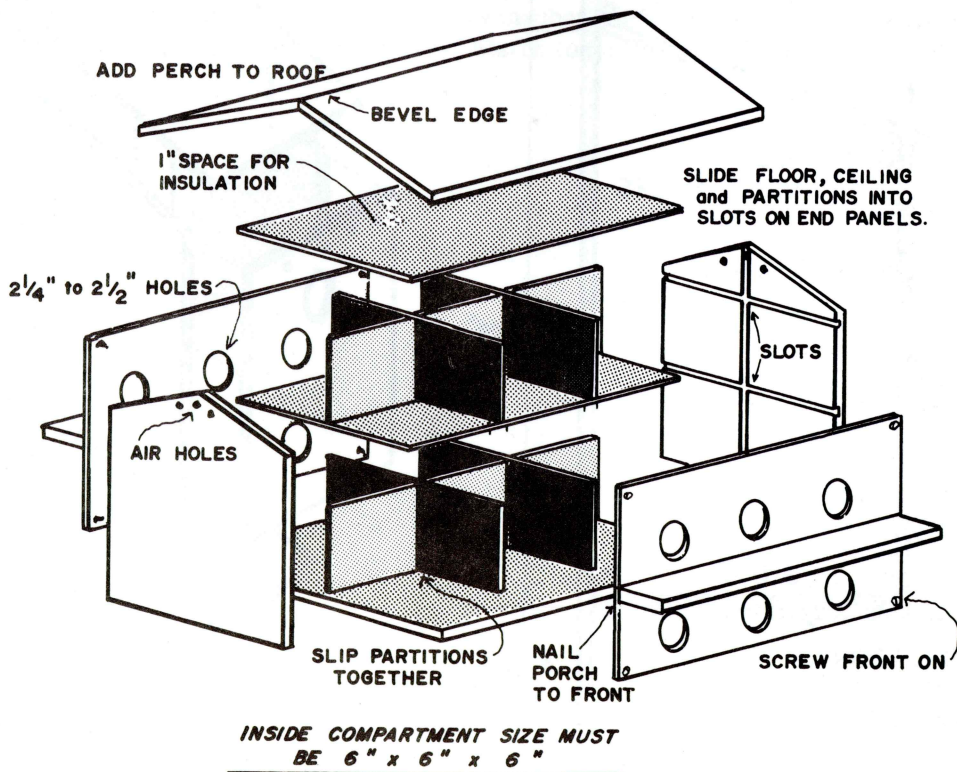
Installation: Erect the house on a pole or pipe 12 to 18 feet high in an open area away from trees. This house is light enough to mount on telescoping poles which are commercially available. This facilitates cleaning.

Have your martin house erected by April 15 and preferably by March 25. Holes may be blocked with strips of wood in the fall and winter to keep out starlings and sparrows. Clean out old nests in September.

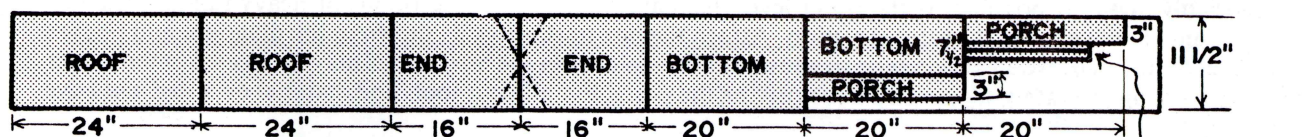
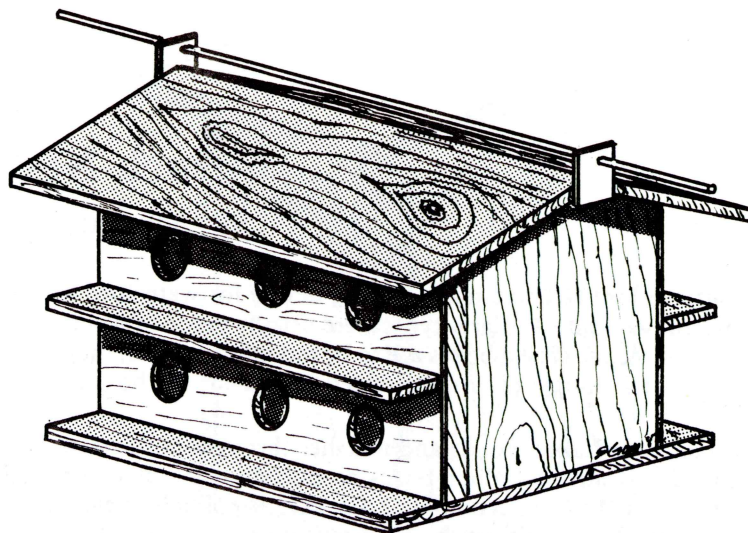
Comment: Martins are sometimes difficult to attract. Well-shaded lawns with big trees are poor habitats. It may take a year or two to attract martins to a new house; don't get discouraged. If after two years you are still unsuccessful, try moving the house to a different location—sometimes 25 feet can make a difference. Don't expect a nest in every room. Four nesting pairs in a 12-room house is good occupancy. Extra rooms are used for roosting and for young, preflight birds. Also, sparrows will likely fill a few vacancies. Before the martins are nesting, sparrow nests should be removed. After the martins are nesting, leave the sparrow nests alone to avoid disturbing the martins.

Biology: Martins usually lay four or five eggs. Incubation is about two weeks, and age to first flight is about four weeks. Martins build only one nest per year, but they may renest if the first attempt is an early failure. After flight, martins will return to the house for about two weeks to roost and perch.

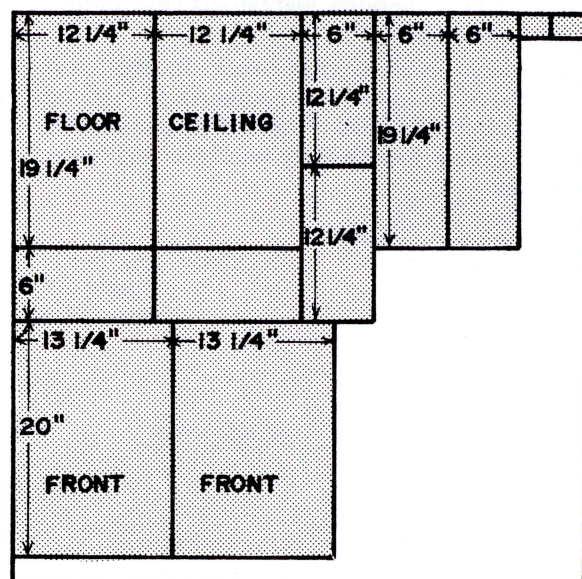
Martins feed on the wing and eat a variety of flying insects, including flies, beetles, moths and cicadas. They will not decimate bee hives. Scouts—mature males—may arrive in late March. After aggregating in large flocks in late summer, they depart for wintering grounds in South America during late August and early September.



Missouri Department of Conservation



**3/4" x 16"
STRIPS TO
ADD TO END
PIECES**



2" x 3"
PERCH SUPPORTS

CUTTINGS FROM 4' x 4'
1/4" EXTERIOR PLYWOOD

4 pcs. 6" x 12 1/4" - PARTITIONS
2 pcs. 6" x 19 1/4" - PARTITIONS
2 pcs. 12 1/4" x 19 1/4" - CEILING and FLOOR
2 pcs. 13 1/4" x 20" - FRONTS
2 pcs. 2" x 3" - PERCH SUPPORTS

CUTTINGS FROM 1" x 12" x 12' PINE LUMBER

2 pcs. 1" x 24" - ROOF
2 pcs. 1" x 12 1/4" x 16" - GABLE ENDS
(nail 3/4" strips to side of 1 1/2" wide board)
2 pcs. 1" x 3" x 20" - PORCHES
1 pcs. 1" x 11 1/2" x 20"
1" x 7 1/2" x 20" - BOTTOM

20"

4" 6" 6" 4"

2 1/4"

PORCH

5 1/2"

2 1/4" or 2 1/2" HOLES

2/83

Technical drawing of a panel with a gabled top. The overall height is 16" and the overall width is 12 1/4". The panel features a vertical 3/4" STRIP running down the center. The top section is a gable with a height of 6 1/4" and a width of 6 1/8" at the base. The gable contains three AIR VENTS. The bottom section has a height of 6 1/8" and a width of 6 1/8" at the base. The gable section also contains 1/4" deep and 1/4" wide GROOVES.

Technical drawing of a 1/4 inch slot. The overall width is 19 1/4 inches. The distance from the left edge to the start of the slot is 6 3/8 inches. The width of the slot is 3 inches. The distance from the end of the slot to the right edge is 6 3/8 inches. The slot is labeled "1/4\" SLOTS".

Wood Duck Nest Box

by Dick Vaught

Construction: No man-made nesting device for waterfowl has gone through more design changes than that for the beautiful wood duck. Early types were usually made of wood, while newer models are constructed predominantly of plastics or metal. If nest boxes are to be mounted in trees, they should be made predator-proof. Tack a 6-inch-wide strip of 1/4-inch hardware cloth or screen wire inside the box from the bottom to the hole so the ducklings can climb out.

Installation: Lakes, ponds and marshes throughout the state are potential production sites for wood ducks. We recommend that all wood duck boxes be erected over water, using steel or wooden posts with predator-proof metal cones or sleeves. To be as economical and safe as possible in erecting boxes, we recommend placement in water two to four feet deep. Using this depth as the first criterion, place the mounting posts as far from the shoreline as possible while staying within the suggested depths. The bottom of the box should be no lower than four feet from the water surface, preferably higher if possible. If the water level fluctuates radically during floods or heavy rainfall, the box needs to be mounted above the high-water elevation. Attach the box to the post as shown in the diagram, and be sure nesting material (6 inches of wood shavings or sawdust) has been placed in the box. Boxes may be erected in the winter when ice is thick enough to safely support a person driving the posts. Put all your tools and material on a sled and have at it.

Comment: Although nesting boxes are intended primarily for wood ducks, other species of wildlife will also find them attractive for homes. Possible users include owls, kestrels, woodpeckers, hooded mergansers and even a honeybee swarm or two. All are part of the wildlife scene in the Missouri wetlands.

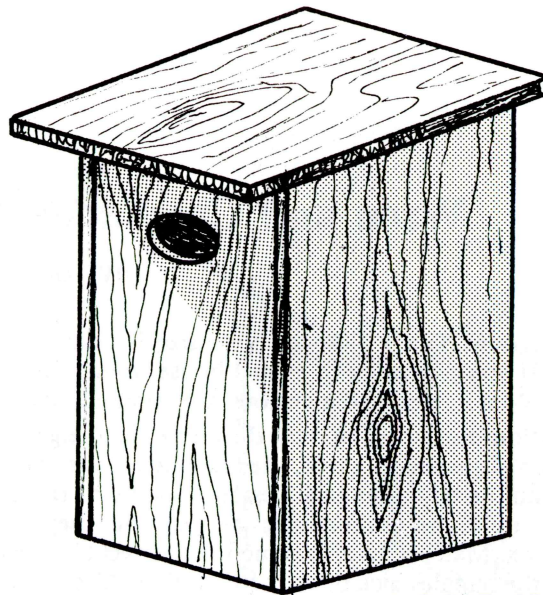
Biology: Wood ducks nest from mid-February to mid-March. A dozen eggs is an average clutch. Incubation is about 32 days. Ducklings leave the box immediately after hatching. Free falls of up to 40 feet apparently do them no harm. First flight is at about nine weeks. One brood per year is normal, but two broods can occur in southern Missouri. Early foods are primarily insects, but later these ducks eat vegetable foods. They winter in the lower Mississippi Valley.

HOW TO BUILD A WOOD DUCK NEST BOX



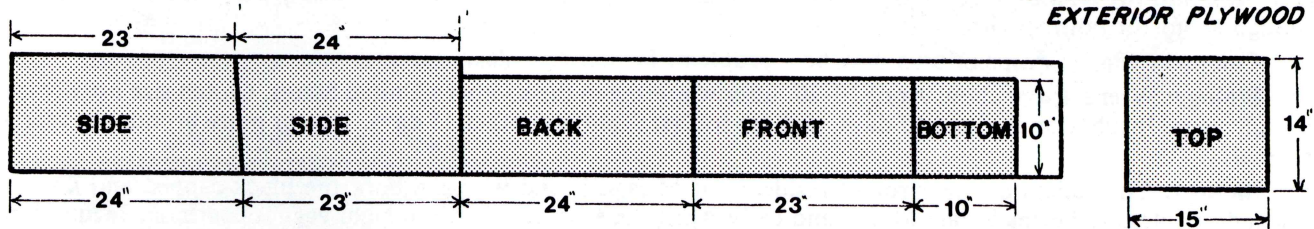
Missouri Department of Conservation

Drawings
by Steve Gum

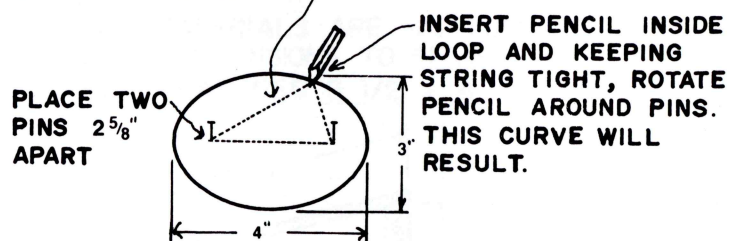


1 BOARD 1"x12"x9' LONG

1 PIECE OF 3/4"
EXTERIOR PLYWOOD

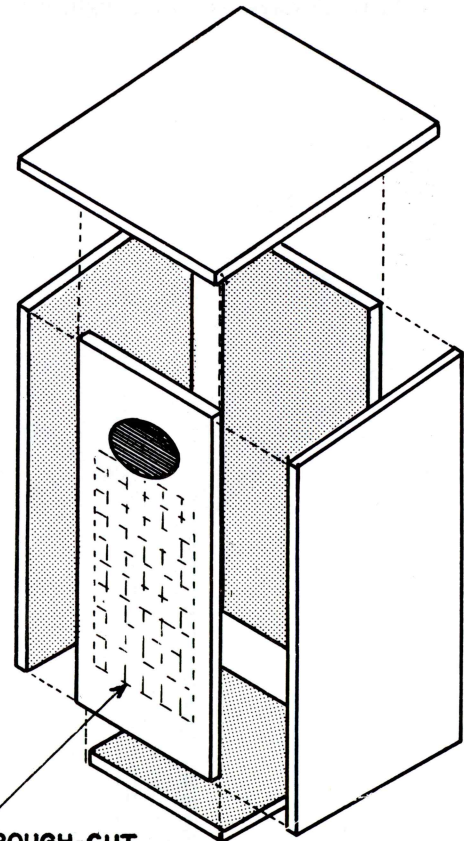
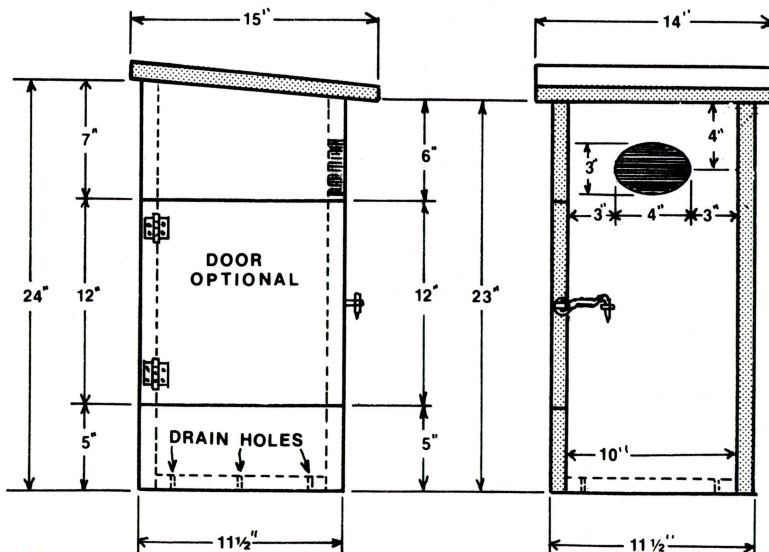


MAKE A 7½" LOOP OF STRING
AND PLACE AS SHOWN



INSERT PENCIL INSIDE
LOOP AND KEEPING
STRING TIGHT, ROTATE
PENCIL AROUND PINS.
THIS CURVE WILL
RESULT.

ENTRANCE HOLE LAYOUT



IF ROUGH-CUT
WOOD IS NOT USED,
HARDWARE CLOTH
OR SCREEN WIRE
MUST BE PLACED
BENEATH THE
ENTRANCE HOLE
ON THE INSIDE.

3" - 5" OF
COARSE SAWDUST
OR SHAVINGS ARE
NEEDED IN BOTTOM

Wren and Chickadee Nest Box Information

by John E. Wylie

Construction: The 1 1/8-inch hole size is adapted to the needs of house, Bewick and Carolina wrens and chickadees. If you only want to attract house wrens, the hole can be reduced to 7/8 inch (the diameter of a quarter). The 3 1/2 x 4-inch interior dimensions are minimal, and some people prefer a 4 x 4-inch interior size.

Installation: For wrens, mount the house six to eight feet high; for chickadees, it can be slightly higher, up to ten feet. If the box is nailed to a tree, use aluminum nails and leave the heads protruding 1/4 to 1/2 inch to allow for tree growth. Clean the box after each nesting. Several of these houses may be erected in a yard. Space them 20 to 50 feet apart. Wrens build two or more nests per year, but they rarely use the same box twice in a season, preferring to nest in a different box. Male wrens also sometimes attract two females into their territory. The males may put twigs in all the houses, but the females pick the box for nesting. Also, there is competition between chickadees and wrens. Chickadees nest first, and the late-arriving wrens may attempt to destroy their nests. Several houses, well spaced, help provide enough room for both species.

Comment: Paper wasps or ants may be a problem. Inspect and clean vacant boxes.

Biology: Wrens arrive about April 10-20, after wintering in the southern United States. Clutch size usually is six to eight eggs. Incubation is about 15 days, and age to first flight is another 15 days. Two or more broods per year are normal.

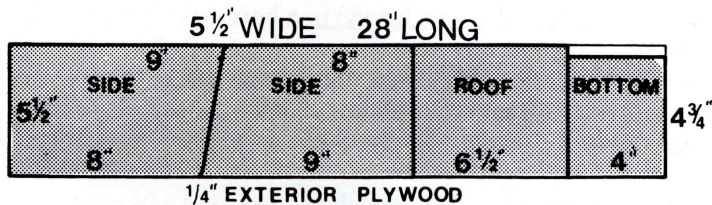
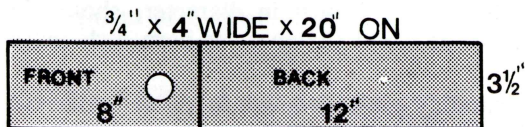
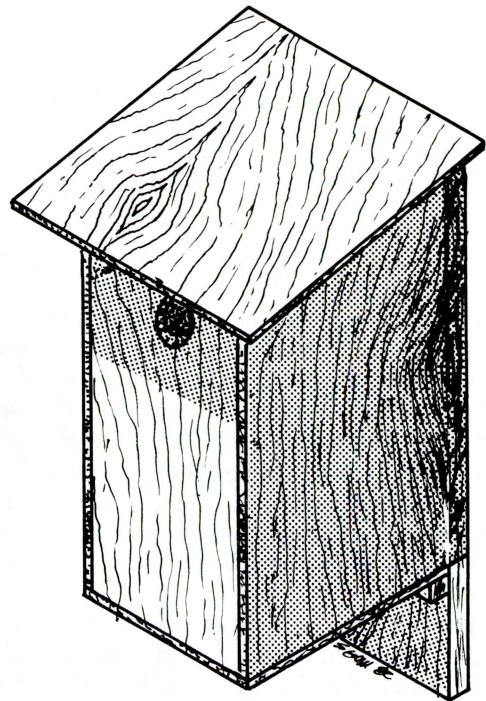
Biology: Chickadees are year-round residents of Missouri, and we have both the black-capped and Carolina chickadees. Nesting begins in late March and early April. One clutch of five to eight eggs is common. Incubation is from 11 to 13 days, and first flight is made 14 to 18 days after hatching. Chickadees prefer wooded areas.

HOW TO BUILD A WREN & CHICKADEE BOX

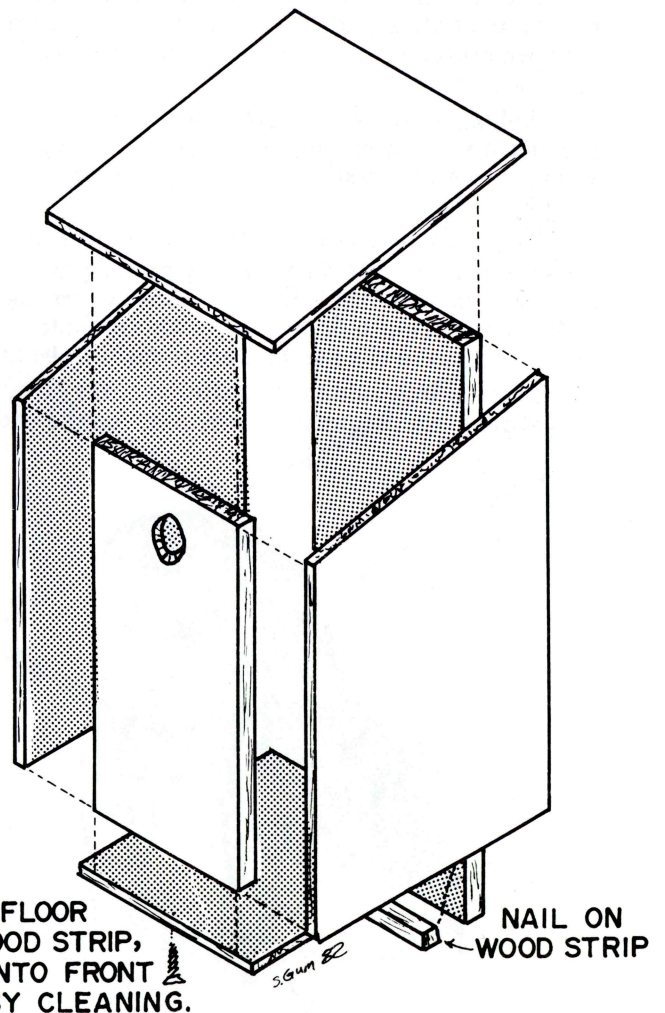
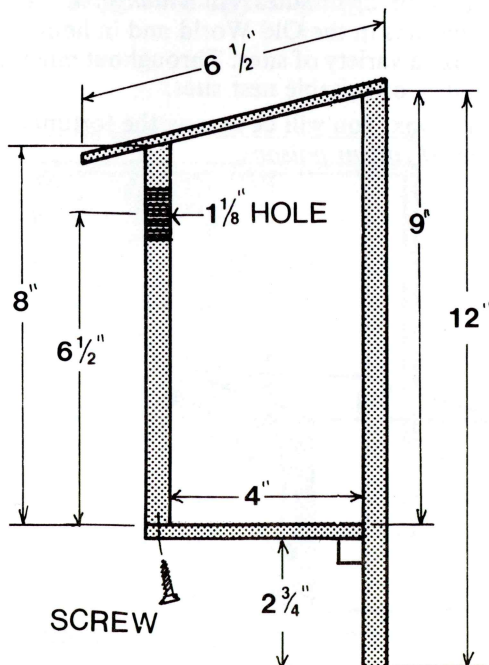


Drawings
by Steve Gum

Missouri Department of Conservation



IF ALL MATERIALS ARE $\frac{3}{4}$ " LUMBER,
ADJUST DIMENSIONS TO INSURE THE
INSIDE MEASURES 3 $\frac{1}{2}$ " x 4".



Barn Owl Nest Box

by James D. Wilson

Construction: The important elements of a barn owl nest box are roominess (to accomodate the species' large broods) and seclusion from predation. Although barn owls have used oddest of designs, the style shown here has proven successful when placed in a variety of situations. If placed up beneath the barn's roof, there is no need to put a roof on the box. If placed lower in the barn or in an open-topped silo or tree, a roof must be installed to provide the necessary seclusion and protection from weather.

Construction is simple. The sides are first fastened to the front and back and then the bottom is attached. If a top is used, it should be put on after the box is installed to facilitate easier nailing. Use exterior plywood if the box is to be placed in an exposed situation. Approximately nine drain holes, 1/4-1/2 inch in diameter, should be spaced throughout the bottom. Cover the bottom with one or two inches of wood shavings, as barn owls place no nest material.

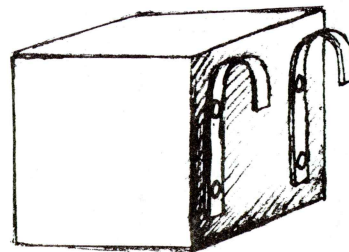
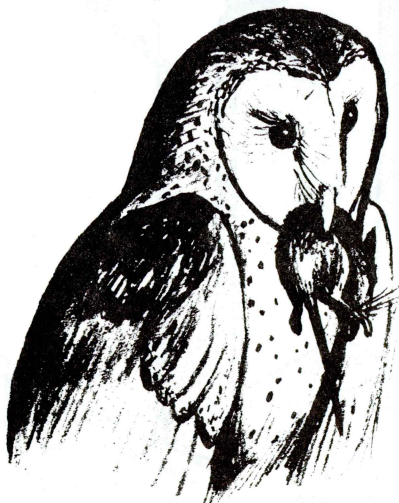
Installation: Barn owls prefer to nest in buildings, and boxes should be installed high to lessen human disturbance and the dangers of predation from snakes, raccoons and cats. If placed in a barn, the front should face into the barn. The back can be nailed flat to the barn. Usually, a brace or stud can be located on which to secure the box firmly along one side. Metal straps attached on the back can be bent to hang the box (drawing below) in a barn or inside a silo. In some regions, barn owls use boxes that are simply wired in place high in a large tree.

The most productive site for a barn owl box is where individuals have been seen. Due to the species' rarity, the possibility of attracting them in other areas is remote but worth a try. The best localities are rural. Areas where there are open grasslands and crop fields and where grain spillage results in high mouse populations are especially suitable for nesting barn owls.

Biology: Barn owls are permanent residents and may nest at any season. Their clutch of five to ten white eggs will produce a varying number of the young, depending on availability of prey. Incubation requires three weeks. The young, which vary in size due to their hatching dates, fly at about seven weeks of age. Barn owls often nest in the same site repeatedly.

Barn owls are considered to be our most beneficial owl, owing to their appetite for animal pests. One once was observed delivering 16 mice, three gophers, a rat and a squirrel to a nest within 25 minutes. An *endangered species in Missouri*, the barn owl is found worldwide, nesting almost totally in buildings in the Old World and in hollow trees and burrows in much of the western United States. In Missouri, they utilize a variety of sites. Throughout much of its range, the barn owl's numbers are thought to be limited by the availability of suitable nest sites.

Comment: Should the beautiful, monkey-faced barn owl accept your box, you will be among the fortunate few. You should reduce human activity near the site and *discontinue the use of rodent poisons*.



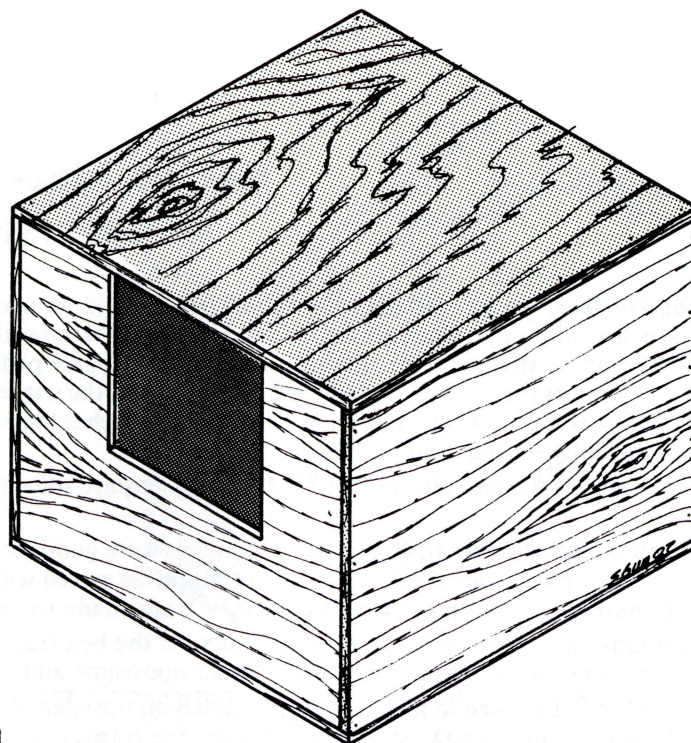
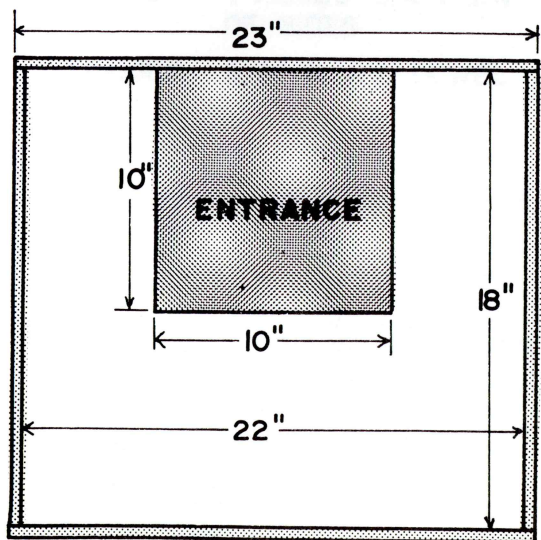
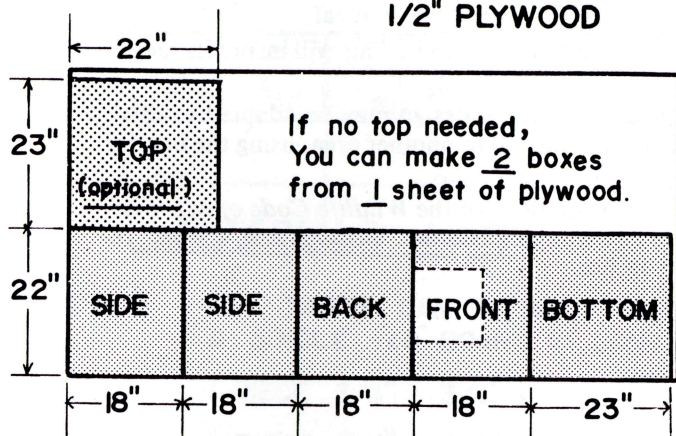
HOW TO BUILD A BARN OWL NEST BOX



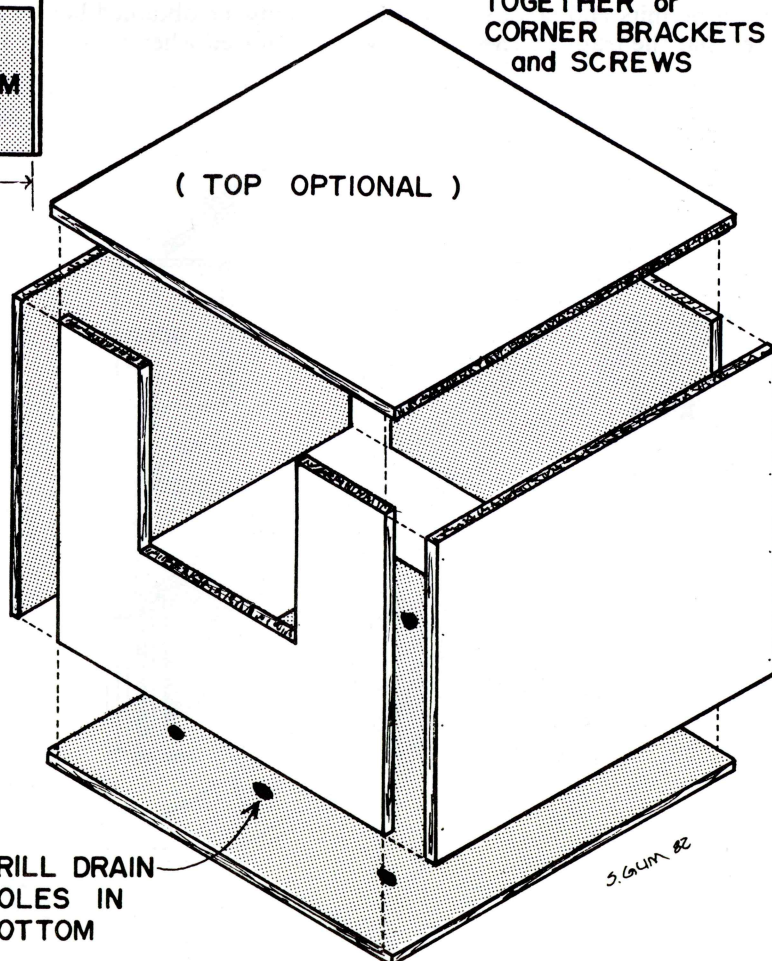
Drawings
by Steve Gum

Missouri Department of Conservation

ALL PARTS FROM A 4' x 8' SHEET
1/2" PLYWOOD



GLUE and NAIL
TOGETHER or
CORNER BRACKETS
and SCREWS



Rabbit Live-Trap

by David E. Pitts

Construction: To be effective, the rabbit trap should be constructed of fairly good lumber. The door and its guides are critical points, since gravity must close the door after the trigger is tripped. Be sure there is enough space between the guides that the door slides without binding. Some people extend the guides about 1 inch above the top of the trap to support the door. When the door is raised and the trigger is set, at least 2 inches or more of the door should be in the guide tracks. The opening should be at least 4 inches high. This height can be adjusted by changing the length of the string between the door and lever.

The trigger is not complicated, although it may require some fine-tuning to insure a quick release when contact is made.

Location and Operation: Rabbits live in areas where good escape cover is available—in brushpiles, briar patches and thick fencerows. They also prefer low-cut bluegrass mixed with clovers and shrubs. In order to catch rabbits, the box trap must be placed in or along the runs or trails made by rabbits using these areas.

Opinions vary as to the importance of baits for the box trap. Some prefer baits such as apples, carrots or corn, while others use no bait at all. Baits may attract opossums and skunks in search of an easy meal.

Care should be taken to place the trigger notch on the edge of the hole nearest the door. This will insure its release when the animal pushes against it upon entering the trap.

Comment: With a little modification in the size during construction, this trap design may be adapted to catch other, larger or even smaller animals. Nuisance animals may be trapped and moved to another area, using the box for transport.

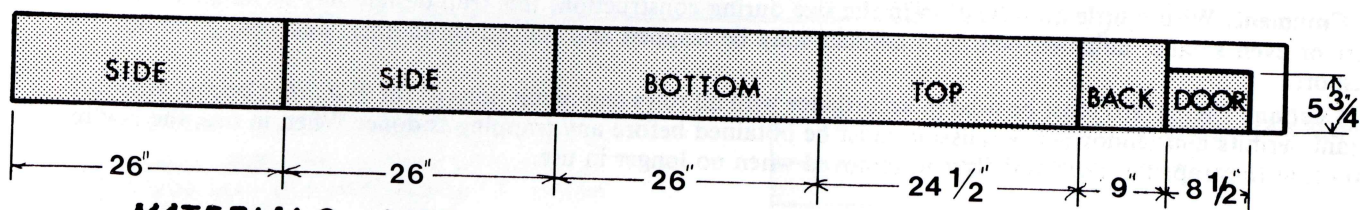
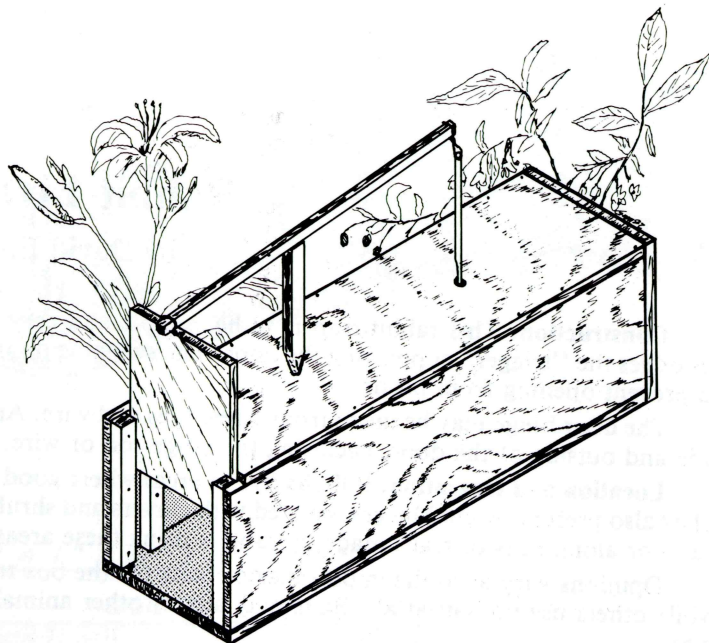
Caution: These traps must be used in accordance with all rules and regulations of the *Wildlife Code of Missouri*. Certain permits and landowner permission must be obtained before any trapping is done. When in use, the law requires that the traps be checked daily and removed when no longer in use.

HOW TO BUILD A RABBIT LIVE-TRAP



Drawings
by Steve Gum

Missouri Department of Conservation



MATERIALS LIST

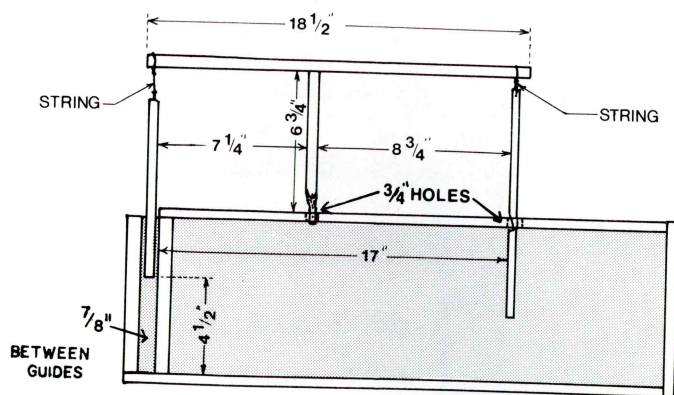
BOX ALL PARTS CAN BE BUILT FROM
A SINGLE 1"x8" BOARD 10' LONG.

LEVER 1 PIECE 3/4" x 3/4" x 18 1/2"

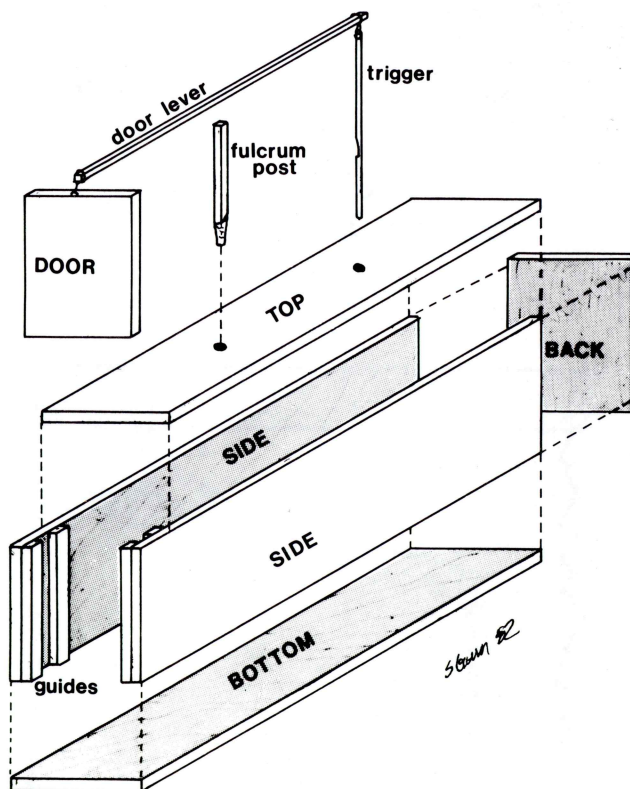
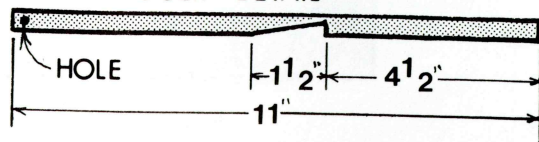
FULCRUM 1 PIECE 3/4" x 3/4" x 7 1/2"

GUIDES 4 PIECES 3/4" x 3/4" x HEIGHT
OF SIDES.

TRIGGER 3/8" to 1/2" DOWEL 11" LONG



TRIGGER DETAIL



Rabbit Live-Trap

by David E. Pitts

Construction: This rabbit trap is rather simple and easy to build. The trap door is released when the animal dislodges the "trigger" supporting the door. The swinging door must be long enough to close tightly against the floor to prevent opening from inside.

The door hinge may be made from screw eyes and wire. Another method is to use metal straps fastened to the inside and outside of the door, enclosing the hinge rod or wire.

Location and Operation: Rabbits live in areas where good escape cover (brushpiles, briars and such) is available. They also prefer low-cut bluegrass mixed with clovers and shrubs. In order to catch rabbits, the box trap must be placed in or along runs or trails made by rabbits using these areas.

Opinions vary as to the importance of baits for the box trap. Some prefer baits such as apples, carrots or corn, while others use no bait at all. Baits may attract other animals, such as opossums and skunks in search of an easy meal.

Comment: With a little modification in the size during construction, this trap design may be adapted to catch larger or even smaller animals. Nuisance animals may be trapped and moved to another area, using the box for transport.

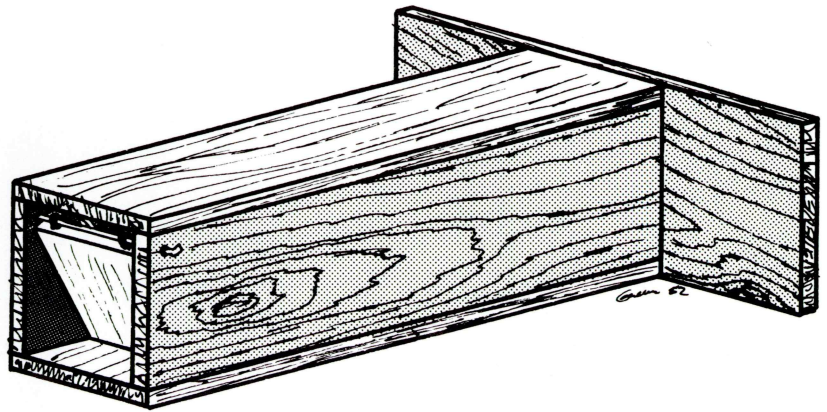
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HOW TO BUILD A RABBIT LIVE-TRAP

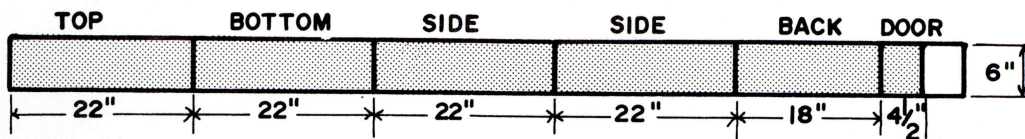


Drawings
by Steve Gum

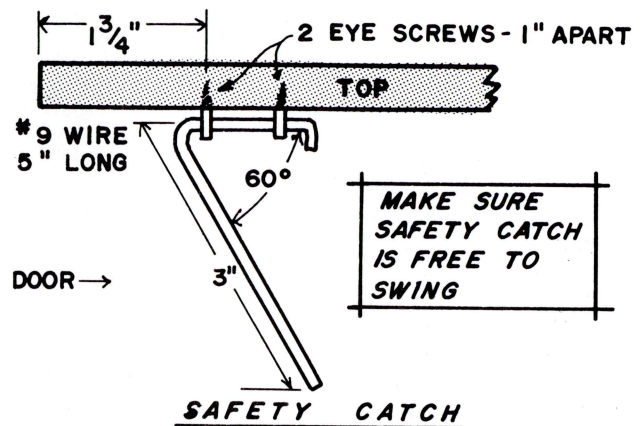
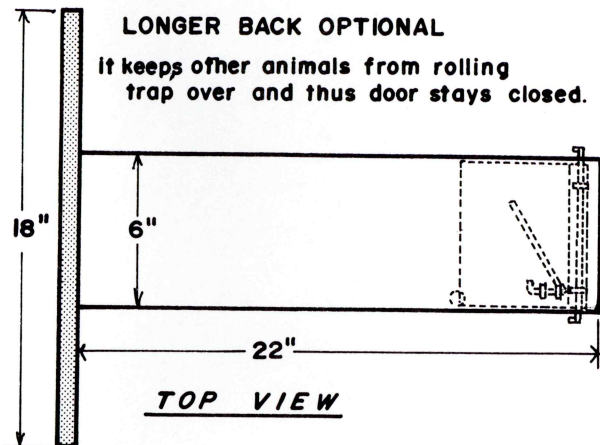
Missouri Department of Conservation



ALL WOOD PARTS FROM A 1" x 6" x 10' BOARD



LONGER BACK OPTIONAL
It keeps other animals from rolling
trap over and thus door stays closed.



HANG SAFETY CATCH TO ONE SIDE

